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Zanclospora bicolorata sp. nov. from Ecuador

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Abstract—The new species *Zanclospora bicolorata,* found on a rotten leaf of an unidentified plant in Ecuador, is described and illustrated. The fungus is characterized by setiform bicolored conidiophores and amygdaliform to suballantoid unicellular hyaline conidia.

Key words—asexual fungi, hyphomycete, taxonomy, tropics

Introduction

Zanclospora S. Hughes & W.B. Kendr., typified by *Z. novae-zelandiae* S. Hughes & W.B. Kendr., is characterized by macronematous, mononematous, setiform, cylindrical, multiseptate, brown to dark brown conidiophores. The pale brown conidiogenous cells are monophialidic, lageniform or ampulliform, discrete, sessile, and arranged in verticils around the middle conidiophores. The hyaline unicellular conidia are falcate, cylindrical, or obovoid and accumulate in mucous masses (Hughes

& Kendrick 1965). During a survey of hyphomycetes associated with plant litter from a tropical rainforest at the Río Palenque Scientific Center near Cantón Buena Fé, Los Rios province, we collected a *Zanclospora* specimen that differs remarkably from all previously described species (Almeida & al. 2013, Hernández-Restrepo & al. 2017), which we propose as a new species.

Materials & methods

Samples of decaying plant materials were collected and placed in plastic bags for transport to the laboratory, where they were washed, treated according to Castañeda-Ruiz & al. (2016), and placed in moist chambers. Individual conidia were separated from the plant material by a mycological needle under a stereoscope and cultured on V8 agar (125 ml V8 juice + 18 g agar + 1000 ml distilled H_2O, pH 6.3). The V8 cultures were incubated at 25 ± 1°C in an irradiation box exposed to alternating 12 h periods of light (Vica FLB-20W T10 UV-lamp) and observed morphologically after five days. Colony colors were coded according to Rayner (1970). Mounts were prepared in polyvinyl alcohol-glycerol (8 g PVA in 100 ml H_2O + 5 ml of glycerol) and lactofuchsin (0.1 g acid fuchsin, 100 ml 85% lactic acid) following Carmichael (1955), or 90% lactic acid. Features were measured at 1000× magnification and photographed using a Zeiss Axioskop 40 microscope with bright field and phase contrast optics. The type specimen (metabolically inactive dried culture) was deposited in the herbarium of the Culture Collections of Microorganisms, CIBE Guayaquil, Ecuador (CCMCIBE).

Taxonomy

Zanclospora bicolorata R.F. Castañeda, M. Villav. & D. Sosa, **sp. nov.** Figs 1– 3

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Differs from *Zanclospora bonfinensis* by its bicolored conidiophores and amygdaliform or suballantoid conidia.

Type: Ecuador, Los Ríos province, Cantón Buena Fé, Parroquia Patricia Pilar, 0°35′45′S 79°21′49′W, on decaying leaf of an unidentified plant, 18.III.2019, coll. A. Quevedo, M. Vera & F. Espinoza (**Holotype** [metabolically inactive dried culture], CCMCIBE-H594)

Etymology: Latin, *bicolorata*, two-colored, referred to the conidiophores.

Colonies on V8 agar at 25°C attaining 35 mm diam after five days, adpressed, radially undulate, whitish-pale luteous. Reversed center orange-sienna, margin white. Mycelium mostly immersed, composed of septate, slightly branched, smooth, 1–4.5 µm diam, subhyaline to pale brown hyphae. Conidiophores macronematous, mononematous, setiform, erect, flexuous, cylindrical below, unbranched, acuminate to acerose toward the apex, 10–20-septate, with multiple adjacent verticils of conidiogenous cells on swollen cells, more or less

Fig. 1. *Zanclospora bicolorata* (ex holotype CCMCIBE-H594). Colonies on V8 culture medium. A. Viewed from above; B. Viewed from below.

at the middle of the stipe, at the middle part of conidiophores smooth-walled, pale brown or brown from the base to the distal verticils of conidiogenous cells, dark reddish brown toward the apex, ≤300 µm long, 10–17 µm wide.

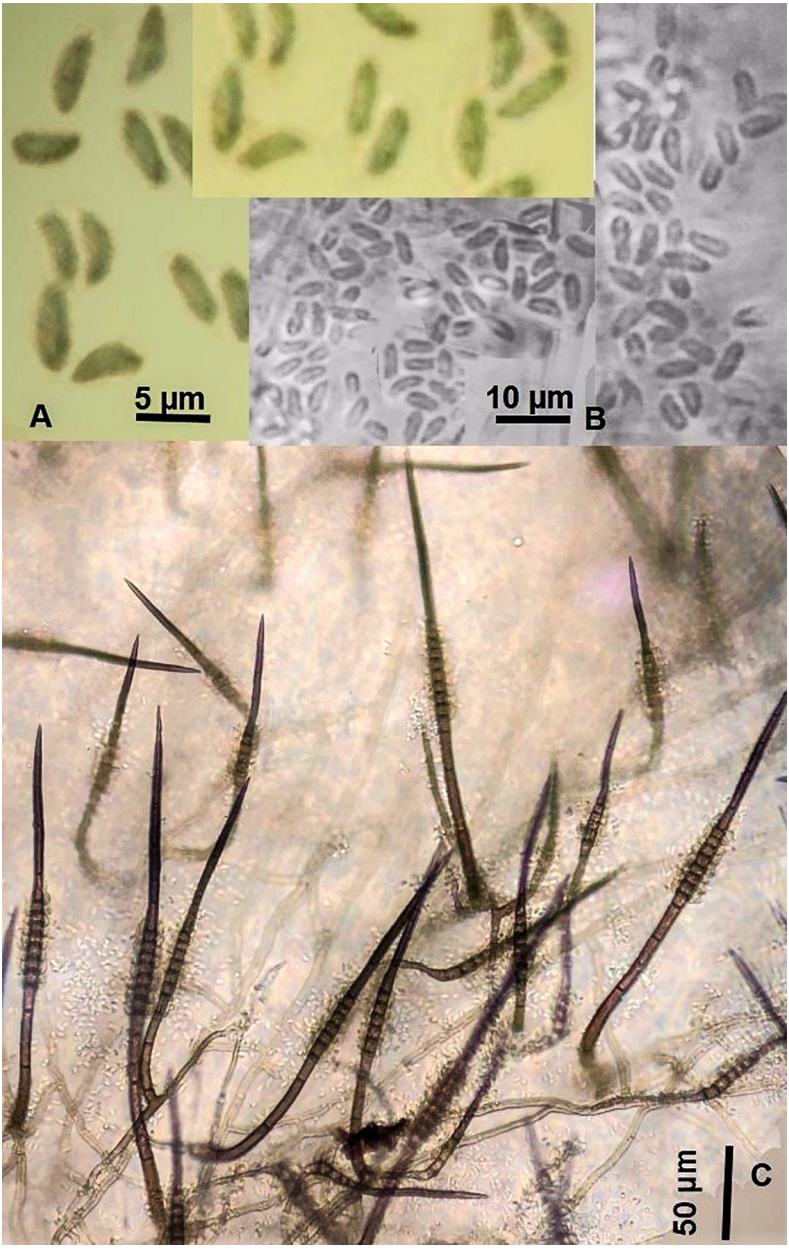

Fig. 2. *Zanclospora bicolorata* (ex holotype CCMCIBE-H594).
A, B. Conidia; C. Conidiophores, conidiogenous cells, and conidia.

Fig. 3. *Zanclospora bicolorata (*ex holotype CCMCIBE-H594).
A. Conidiogenous cells series forming verticils; B. Conidiogenous cells;
C. Conidiophores, conidiogenous cells, and conidia.

Conidiogenous cells monophialidic, ampulliform or lageniform, 6–15 × 2.5–4 µm, with inconspicuous to noticeable cylindrical-infundibuliform collarette, 1–5 × 1 µm, discrete, very pale brown, smooth-walled, 2–6 in verticils

adjacent just below the septa of swollen cells in ≤9 series on the conidiophores. Conidia seriate, amygdaliform to suballantoid, unicellular, hyaline, smooth-walled, 2–4 × 1–1.5 µm, accumulating in white masses.

Notes: *Zanclospora* is represented by eleven species and one variety (Almeida & al. 2013, Hernández-Restrepo & al. 2017, Index Fungorum 2020). *Zanclospora bicolorata* is morphologically similar to *Z. bonfinensis* D.A.C. Almeida & al. in the conidiophores and conidiogenous cell arrangement, but *Z. bonfinensis* is distinguished by its brown conidiophores with sterile stipe that is verrucose toward the apex and its straight to slightly curved bacilliform conidia (3–5.5 × 1–2 µm; Almeida & al. 2013).

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